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EXAMINER	
JAGANNATHAN, MELANIE	
ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/396,228	Applicant(s) RAMASWAMY ET AL.	
	Examiner Melanie Jagannathan	Art Unit 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 January 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-2, 5-7, 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. U.S. Patent Number 5,566,174. Regarding claims 1 and 8, Sato discloses a method and a system for controlling the bit rate of an output packet stream (see Figure 7). The filter (element 40) selects the packets that form the resulting transport stream and thus anticipates the claimed source of an input transport packet stream. A buffer (element 42), which anticipates the claimed input packet buffer, is coupled to the filter and holds the packets before they are read out. The packet store (element 44), which anticipates the claimed source of status signal, stores the packets before they are read out and monitors the buffer to see if it is full, empty or neither empty nor full. See column 9, lines 39-58. A buffer (element 61) stores the packets and sends

the packets to a multiplexer where the output packet stream is generated in synchronism with the output clock signal (see Figure 6, local clock, element 39). Referring to claims 1, 2, 8, and 9, the scheduler (element 45) anticipates the claimed control signal generator and is responsive to the local clock. Additionally, the scheduler responds to the packet store and checks whether outputting a packet will overflow the transport buffer if it is full and signals whether its okay to send the packet to the multiplexer. See column 9, lines 50-58. If the packet store is empty, a packet is read out to the buffer and moved to the packet store and the scheduler signals OK for it to be sent to the multiplexer. See column 10, lines 8-17.

Regarding claims 5-7, a trickmode packet generator (Figure 7, element 16) anticipates a source of additional packets representing auxiliary data. A null packet generator (element 49) anticipates the source of null packets. These additional packets are inserted into the stream when necessary. See column 9, lines 66-67 and column 10, lines 1-2. Additionally, Sato discloses a multiplexer, element 62, which combines packets from the input transport packet stream (packets from element 61) and additional packets (elements 16 and 49) to generate the output packet stream. This device anticipates the disclosed output packet stream generator comprising a multiplexer for combining packets. See column 9, lines 66-67 and column 10, lines 1-2 and lines 16-18.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of Sartain et al. U.S Patent Number 6,169,747. Sato discloses all the limitations of the claims except for a system including a means for monitoring whether the input buffer is nearly full or empty as in system of claim 3 and method of claim 10. Sartain does disclose a system where the input buffer is monitored in order to compensate for differences in data rates. See Figure 5. The concept of a buffer detecting near underflow and near overflow conditions is taught. A monitor (element 133) tests the contents of the input buffer (element 111) to check for overflow, underflow, near underflow or near overflow conditions. See column 3, lines 44-65. The claimed control signal generator comprising circuitry to generate a control signal to increase its frequency due to a near overflow or decrease the frequency due to a near underflow is anticipated by the monitor (Figure 6, element 133) and the variable interpolation filter (element 145). The monitor generates a signal indicating the flow status of the buffer and once received

the variable interpolation filter alters the number of samples per frame. See column 4, lines 49-63. At the time the invention was made, it would have been obvious to a person skilled in the art to test a buffer to check if it is nearly full or nearly empty. A person of ordinary skill in the art would be motivated to do this in order to prevent the loss of data due to overflow or data running out due to underflow. See column1, lines 14-28.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato. Sato discloses all the limitations of the claim except for deleting null packets from the input transport packet buffer when the input packet buffer is full. Sato discloses a method where null packets are inserted into the packet stream when it is necessary. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to delete unwanted packets when the buffer is full. A person of ordinary skill in the art would be motivated to do this as it ensures proper flow control in the system.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of Horton U.S. Patent Number 5,969,770. Sato discloses all the limitations of the claims except for a system where the source of input transport packet stream represents auxiliary on-screen display information (claim 12). Horton discloses a digital television system, which processes television information in the form of stream data packets representing video and audio information and includes on-screen display (OSD) provisions. See abstract and column 2, lines 55-63. Additionally, a multiplexing arrangement is provided to multiplex digital signals representing the graphics image data. See abstract. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include a source of on-screen display

information. A person of ordinary skill in the art would be motivated to do this in order to display status information and instructions to the user so he/she can, for instance, set the picture brightness and contrast of the television receiver or set recording times and channel number for program recording by a VCR.

8. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of Kostreski et al. U.S. Patent Number 5,734,589. Sato discloses all the limitations of the claims except for the packet streams being compatible with one of a QAM or QPSK or VSB modulation formats. Kostreski et al. disclose a digital entertainment system including a loop transport interface. See Figure 3. The loop transport interface (element 300) includes RF modulators (element 317) implementing 64 QAM or 16 VSB modulation techniques. See column 19, lines 63-67 and column 20, lines 1-11. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include QAM, QPSK or VSB modulation techniques. A person of ordinary skill in the art would be motivated to do this since it conserves bandwidth.

Response to Arguments

9. Applicant's arguments filed January 28, 2003 have been fully considered but they are not persuasive. Examiner appreciates the detailed description of prior art Sato, Sartain, Horton and Kostreski. However, in light of the claim language the art rejection is proper.

Regarding claims **1** and **8**, Applicant argues reference Sato does not disclose a variable output clock signal generator, which varies the output clock signal in response to a control signal, which is generated in response to status signal from input packet buffer and Applicant additionally argues that status signal does not disclose input packet buffer generating signal

indicating buffer being full, empty or neither full nor empty. However, Sato does disclose scheduler (Fig. 7, element 45) sending control signal indicating packet can be read out in response to status signal indicating at least one packet in buffer i.e. showing buffer is not empty and is not full but rather neither empty or full. Furthermore, when scheduler signals for packet to be read out, local clock is involved in the restamping of packet (element 50) as shown in Figure 7 with arrow from local clock to restamp (element 50).

Regarding claims **2** and **9**, Applicant argues reference Sato does not disclose variable output clock signal increasing in frequency if buffer is full and decreasing in frequency if buffer is empty. However, reference Sato discloses status signal indicating whether buffer is empty or full and scheduler monitoring for buffer overflow in which case packets are held and this would result in an increase in frequency since there is decrease in packets sent out over time. If buffer is empty then packets from packet store (element 44) can be fed out and be restamped or null packets and trickmode packets (elements 16 and 49) can be inserted in order to fill in gaps, which would result in a decrease of frequency as more packets are being sent out over time. See column 6, lines 46-61.

Regarding claims **3** and **10**, Applicant's argument on page 7 regarding the limitation "an output packet stream generator responsive to a variable output clock signal generator..." is not recited in claims **3** and **10**. Reference Sato does not disclose signal indicating buffer nearly full or nearly empty, however, reference Sartain discloses monitoring contents of buffer for overflow, underflow, near underflow, near overflow conditions and signaling status and in response to signal varying of number of samples per frame in response to signal. References

Sato and Sartain in combination disclose the limitations of claims **3** and **10**. See column 3, lines 44-65 and column 4, lines 49-63.

Regarding claim **4**, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Reference Sato discloses all the limitations of the claims except for deleting a packet from the input packet buffer when it is full. Sato discloses inserting null packets carrying no information to fill in gaps when buffer is empty. One of ordinary skill in the art would be motivated to delete these packets carrying no information when buffer is full so as to ensure proper flow control. See column 6, lines 58-59.

Regarding claim **12**, Examiner contends that reference Sato discloses all the limitations except for source of input packet stream representing auxiliary on-screen display information. Horton discloses a system which processes television information in the form of video and audio information including on-screen provisions and a multiplexer to output digital signals representing the graphics image data. See column 2, lines 55-63.

Regarding claims **11** and **13**, Examiner maintains that Sato discloses all the limitations of the claims except for input packet stream format compatible with one of a QAM, QPSK or VSB modulation format and output packet stream format compatible with an 8-VSB or 16-VSB modulation format. Reference Kostreski discloses digital entertainment system with loop

transport interface implementing 64 QAM or 16-VSB modulation techniques. See column 19, lines 63-67 and column 20, lines 1-11.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Jagannathan whose telephone number is 703-305-8078. The examiner can normally be reached on Monday-Friday from 8:00 a.m.-4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 703-308-5463. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9315 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Melanie Jagannathan
Patent Examiner
AU 2666

MJ
March 18, 2003

DAVID TON
PRIMARY EXAMINER